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10/561,266	11/17/2006	Alessandro Casalini	282367US0X PCT	5853
22850 7590 05/29/2009 OBLON, SPIVAK, MCCLELLAND MAIER & NEUSTADT, P.C. 1940 DUKE STREET ALEXANDRIA, VA 22314			EXAMINER SALVITTI, MICHAEL A	
			ART UNIT 1796	PAPER NUMBER
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Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Notice of the Office communication was sent electronically on above-indicated "Notification Date" to the following e-mail address(es):

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Office Action Summary	Application No. 10/561,266	Applicant(s) CASALINI ET AL.	
	Examiner MICHAEL A. SALVITTI	Art Unit 1796	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 27 February 2009.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-16 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-16 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☒ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 1-3 and 7 rejected under 35 U.S.C. 103(a) as being unpatentable over U.S. Patent No. 4,493,922 to *Echte et al.*, with supporting evidence provided by U.S. Patent No. 5,039,714 to *Kasahara et al.*

Regarding claim 1: *Echte* teaches rubber-reinforced (polybutadiene or butadiene/styrene (col. 1, lines 10-15) vinyl aromatic (polystyrene; col. 1, line 39) copolymers. These polymers have strictly bimodal morphology, as demonstrated by (b1) particles (equivalent to “capsule” or “core-shell” particles of instant application; col. 1, lines 47-48) and (b2) particles (equivalent to “salami” particles of instant application; col. 1, lines 54-55). The (b2) particles are known in the art as “salami particles (see *Kasahara* col. 2, lines 55-56 for supporting evidence).

Echte teaches the rigid polymeric matrix (polystyrene) from 70-97% by weight (col. 1, lines 41-43). The rubbery phase dispersed inside of the rigid polymeric matrix comprises 5-40% by weight (col. 1, line 49). The particles with a capsule or “core-shell” morphology constitute 60-95% by weight (col. 1, lines 47-48 and col. 2, lines 17-18), and particles with salami morphology comprise 5-40% by weight (col. 1, lines 49-50). In

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the case where the claimed ranges “overlap or lie inside ranges disclosed by the prior art” a *prima facie* case of obviousness exists. *In re Wertheim*, 541 F.2d 257, 191USPQ 90 (CCPA 1976). See MPEP § 2144.05.

Echte is silent regarding the difference between the solubility parameter according to Hildebrand of the elastomer as being higher than or equal to 0.5. 40/60 Polystyrene-polybutadiene block is admitted in the instant specification as having a known Hildebrand parameter of $\delta = 8.7$, which is higher than 0.5 (page 12, lines 5-12 of instant specification). *Echte* uses 60-95% polybutadiene (with styrene comprising the balance) as capsule particles (col. 1, lines 47-48 and col. 2, lines 17-25), suggesting that a capsule particle with a high Hildebrand value is present. *Echte* further teaches the “salami” particle equivalent as having 5% to 40% polybutadiene (col. 2, lines 27-30). Styrene and butadiene have different Hildebrand parameters, and changing the ratios this drastically would intrinsically create a difference in the Hildebrand parameters larger than 0.5. Unless it can be shown otherwise, the Office assumes that the properties disclosed are inherent to the composition. “The discovery of a previously unappreciated property of a prior art composition, or of a scientific explanation for the prior art’s functioning, does not render the old composition patentably new to the discoverer.” *Atlas Powder Co. v. Ireco Inc.*, 190 F.3d 1342, 1347, 51 USPQ2d 1943, 1947 (Fed. Cir. 1999). See MPEP § 2112.

Regarding claim 2: *Echte* teaches core-shell particles with an average diameter ranging from 0.2-0.6 μm and salami structured particles with an average diameter ranging from 2-8 μm . In the case where the claimed ranges “overlap or lie inside

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ranges disclosed by the prior art” a *prima facie* case of obviousness exists. *In re Wertheim*, 541 F.2d 257, 191USPQ 90 (CCPA 1976). See MPEP § 2144.05.

Regarding claim 3: *Echte* teaches 60-95% core-shell polymers (b1), based on the weight of 1,3 alkadiene monomer (col. 1, lines 47-49). These core-shell compounds may contain styrene (col. 2, line 20) as a mono-ethylenically unsaturated monomer, with styrene present from 5% to 40%, calculated as the balance of the mass of the particle. In the case where the claimed ranges “overlap or lie inside ranges disclosed by the prior art” a *prima facie* case of obviousness exists. *In re Wertheim*, 541 F.2d 257, 191USPQ 90 (CCPA 1976). See MPEP § 2144.05.

Regarding claim 7: *Echte* teaches elastomeric products capable of providing a rubbery phase dispersed in the rigid polymeric matrix (col. 1, lines 24-55), in the form of grafted and occluded particles with a “salami” morphology (see *Kasahara* col. 2, lines 55-56 for definition) , comprising homopolymers and/or copolymers of 1,3 alkadienes (polybutadiene; col. 1, lines 45-50) incompatible with the elastomeric products which provide the capsule rubbery phase. Unless it can be shown otherwise, the Office assumes that the incompatibility of the salami and elastomeric products are inherent to the composition taught by *Echte*.

Claims 4-6 and 8 are rejected under 35 U.S.C. 103(a) as being unpatentable over U.S. Patent No. 4,493,922 to *Echte et al* in view of U.S. Patent No. 6,545,090 to *Demirors et al*.

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Regarding claim 4: *Echte* teaches the styrene-butadiene (S-B) copolymers (col. 2, line 20) according to claim 3.

Echte is silent regarding the molecular weights of S-B type polymers. *Demirors* teaches elastomeric products (rubbers) having a polystyrene block having an average molecular weight between 60,000-80,000 (col. 5, lines 8-17), and a polybutadiene having an average molecular weight between 100,000-1,000,000 (col. 4, lines 1-10). These references are analogous art in that they are drawn to the same field of endeavor, namely the synthesis of impact-resistant polystyrenes, via blends of rubbery particles added to a polystyrene matrix. At the time of the invention, it would have been obvious to a person having ordinary skill in the art to incorporate elastomers with molecular weights in these ranges, as taught by *Demirors* into the composition of *Echte*, with the motivation of optimizing the Mooney viscosities of the resultant polymers (*Demirors*, col. 4, lines 11-24). This would enable a person having ordinary skill in the art to optimize the processing parameters, resulting in an improved product.

Regarding claim 5: *Echte* teaches the styrene-butadiene (S-B) copolymers (col. 2, line 20).

Echte is silent regarding the ratio of styrene to butadiene present in the S-B type polymer. *Demirors* teaches a styrene block with 20-80% by weight of the copolymer (col. 5, lines 18-24). At the time of the invention, it would have been obvious to a person having ordinary skill in the art incorporate 10-50% by weight styrene block copolymers into the invention of *Echte*, with the motivation of obtaining the proper proportions of small and large rubber particles (*Demirors*, col. 5, lines 18-20), which is

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stated to result in a good combination of impact resistance, tensile strength and surface gloss (col. 6, lines 5-30).

Regarding claim 6: *Echte* teaches the styrene-butadiene (S-B) copolymers (col. 2, line 20).

Echte is silent regarding the styrene content equal to 40% by weight and a viscosity in solution ranging from 30-50 cPs. *Demirors* teaches a styrene-butadiene block copolymer having a styrene content ranging from 20-80% (col. 5, lines 18-25), having a viscosity measured at 40-400 cps (col. 5, lines 25-35). At the time of the invention, it would have been obvious to a person having ordinary skill in the art to prepare the polymer composition of *Echte* with the parameters taught by *Demirors*, with the motivation of obtaining a high-impact polystyrene composition which is sufficiently solid to be handled and processed in a normal fashion (col. 5, lines 40-42).

Regarding claim 8: *Echte* teaches the composition of claim 7.

Echte is silent regarding the elastomeric product as polyisoprene, with a viscosity of 100-1000 cPs. *Demirors* teaches isoprenes as a preferred 1,3 conjugated diene (col. 3 line 65 through col. 4, line 10). Viscosities below 300 centipoise are taught (col. 4, lines 12-24). At the time of the invention, it would have been obvious to a person having ordinary skill in the art to use a polyisoprene elastomer with a viscosity ranging from 100-1000 cps, with the motivation of obtaining a high-impact polystyrene composition which is sufficiently solid to be handled and processed in a normal fashion (col. 5, lines 40-42).

Claims 9-16 are rejected under 35 U.S.C. 103(a) as being unpatentable over U.S. Patent No. 4,493,922 to *Echte et al.* in view of U.S. Patent No. 6,545,090 to *Demirors et al.*

Regarding claim 9: *Echte* teaches a process for the preparation of rubber-reinforced vinyl aromatic copolymer with a bimodal morphology, consisting of a rigid polymeric matrix (polystyrene) from 70-97% by weight (col. 1, lines 41-43). The rubbery phase dispersed inside of the rigid polymeric matrix comprises 5-40% by weight (col. 1, line 49). The particles with a capsule or "core-shell" morphology constitute 60-95% by weight (col. 1, lines 47-48 and col. 2, lines 17-18), and particles with salami morphology comprise 5-40% by weight (col. 1, lines 49-50). In the case where the claimed ranges "overlap or lie inside ranges disclosed by the prior art" a *prima facie* case of obviousness exists. *In re Wertheim*, 541 F.2d 257, 191USPQ 90 (CCPA 1976). See MPEP § 2144.05.

Echte is silent regarding a process comprising the method of preparation, as set forth by steps a-c of the instant claim. *Demirors* teaches a process wherein 5-10% by weight of rubber is dissolved (col. 9, lines 5-6) This rubber is preferably 1,3 conjugated diene homopolymer (i.e. 100% 1,3 alkadiene monomer, 0% mono-ethylenically unsaturated monomer; col. 3, lines 65 through col. 4, line 11). The resulting solution is polymerized at a temperature ranging from 60-190°C in the presence of chain transfer agents (*Demirors*, col. 10, lines 6-17). Recovery of the polymer is taught (col. 9, lines 55-61). At the time of the invention, it would have been obvious to a person having ordinary skill in the art to prepare the polymers taught by *Echte* via the continuous

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method of *Demirors*, with the motivation of improving the mechanical properties of the product, in particular product impact resistance (*Demirors*, col. 9, lines 25-29).

Neither reference discloses the solubility parameters of the components, despite using 1,3 alkadienes and styrene components, as taught by the instant claim. The Hildebrand solubility parameters δ_1 and δ_2 are intrinsic to the capsule and salami particles, respectively, and will be larger than 0.5 based on the ratios taught by *Echte*. Thus, unless it can be shown otherwise, the Office assumes that the properties disclosed are inherent to the composition, as Hildebrand solubility parameter is a property intrinsic to the component. “The discovery of a previously unappreciated property of a prior art composition, or of a scientific explanation for the prior art’s functioning, does not render the old composition patentably new to the discoverer.” *Atlas Powder Co. v. Ireco Inc.*, 190 F.3d 1342, 1347, 51 USPQ2d 1943, 1947 (Fed. Cir. 1999). See MPEP § 2112.

Regarding claim 10: *Echte* teaches a process for the preparation of rubber-reinforced vinyl aromatic copolymer with a bimodal morphology, consisting of a rigid polymeric matrix (polystyrene) from 70-97% by weight (col. 1, lines 41-43). The rubbery phase dispersed inside of the rigid polymeric matrix comprises 5-40% by weight (col. 1, line 49). The particles with a capsule or “core-shell” morphology constitute 60-95% by weight (col. 1, lines 47-48 and col. 2, lines 17-18), and particles with salami morphology comprise 5-40% by weight (col. 1, lines 49-50). In the case where the claimed ranges “overlap or lie inside ranges disclosed by the prior art” a *prima facie* case of

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obviousness exists. *In re Wertheim*, 541 F.2d 257, 191USPQ 90 (CCPA 1976). See MPEP § 2144.05.

Demirors teaches a process wherein 5-10% by weight of rubber is dissolved (col. 9, lines 5-6) This rubber is preferably 1,3 conjugated diene homopolymer (i.e. 100% 1,3 alkadiene monomer, 0% mono-ethylenically unsaturated monomer; col. 3, lines 65 through col. 4, line 11). The resulting solution is polymerized at a temperature ranging from 60-190°C in the presence of chain transfer agents (*Demirors*, col. 10, lines 6-17). Recovery of the polymer is taught (col. 9, lines 55-61). Prepolymerization conditions are maintained such that phase inversion occurs (*Demirors*, col. 9, lines 30-35). The reaction may contain suspending agents such as butyl stearate (col. 9, lines 60-68). At the time of the invention, it would have been obvious to a person having ordinary skill in the art to prepare the polymers taught by *Echte* via the continuous method of *Demirors*, with the motivation of improving the mechanical properties of the product, in particular product impact resistance (*Demirors*, col. 9, lines 25-29).

Neither reference discloses the solubility parameters of the components, despite using 1,3 alkadienes and styrene components, as taught by the instant claim. The Hildebrand solubility parameters δ_1 and δ_2 are intrinsic to the capsule and salami particles, respectively, and will be larger than 0.5 based on the ratios taught by *Echte*. Thus, unless it can be shown otherwise, the Office assumes that the properties disclosed are inherent to the composition, as Hildebrand solubility parameter is a property intrinsic to the component. “The discovery of a previously unappreciated property of a prior art composition, or of a scientific explanation for the prior art’s

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functioning, does not render the old composition patentably new to the discoverer.”

Atlas Powder Co. v. Ireco Inc., 190 F.3d 1342, 1347, 51 USPQ2d 1943, 1947 (Fed. Cir. 1999). See MPEP § 2112.

Regarding claim 11: *Echte* teaches styrene as a vinyl aromatic monomer, but is silent regarding the method of claim 9.

Echte teaches styrenyl derivatives having the formula given in claim 11, wherein $n=0$ and R is hydrogen (styrene). *Demirors* teaches the method of claim 9, and discloses alkyl and halogenated styrenyl derivatives of the invention (col. 3, lines 15-54), thereby teaching a finite number of identified predictable solutions, with a reasonable expectation of success (See MPEP § 2141 “E”). At the time of the invention, it would have been obvious to a person having ordinary skill in the art to prepare the polymers taught by *Echte* via the continuous method of *Demirors*, with the motivation of improving the mechanical properties of the product, in particular product impact resistance (*Demirors*, col. 9, lines 25-29).

Regarding claim 12: *Echte* teaches a process for making a composition having the same components as claim 9.

Echte is silent regarding rubbers dissolved in the monomers, possibly in the presence of an inert solvent in quantities ranging from 5-20% by weight with respect to the total. *Demirors* teaches 5-15% of rubber dissolved in monomers (col. 6, lines 55-60), possibly in the presence of an inert solvent (col. 7, lines 5-28). At the time of the invention, it would have been obvious to a person having ordinary skill in the art to prepare the polymers taught by *Echte* via the continuous method of *Demirors*, with the

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motivation of improving the mechanical properties of the product, in particular product impact resistance (*Demirors*, col. 9, lines 25-29).

Regarding claim 13: *Echte* teaches a process for making a composition having the same components as claim 9.

Echte is silent regarding the temperature of dissolution. *Demirors* teaches dissolution without disclosing heating (col. 6, lines 54-60), suggesting that the dissolution temperature may be room temperature, which is below 100°C. Alternatively, the polymerization may occur as low as 60°C, suggesting that the dissolution temperature was below the initiation temperature. At the time of the invention, it would have been obvious to a person having ordinary skill in the art to prepare the polymers taught by *Echte* via the continuous method of *Demirors*, with the motivation of improving the mechanical properties of the product, in particular product impact resistance (*Demirors*, col. 9, lines 25-29).

Regarding claim 14: *Echte* teaches a process for making a composition having the same components as claim 9.

Echte is silent regarding the temperature and pressure of the reaction. *Demirors* teaches polymerizations occurring between 60 and 190°C (col. 10, line 16). These polymerizations are suspension polymerization techniques (col. 5, lines 25-30). The reaction occurs in a stirred-tank reactor (col. 9, line 39). *Demirors* does not specify the pressure, suggesting the vessel is not pressurized, and has a pressure of 1.01 bar (atmospheric pressure). At the time of the invention, it would have been obvious to a person having ordinary skill in the art to prepare the polymers taught by *Echte* via the

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continuous method of *Demirors*, with the motivation of improving the mechanical properties of the product, in particular product impact resistance (*Demirors*, col. 9, lines 25-29).

Regarding claim 15: *Echte* teaches a process for making a composition having the same components as claim 9.

Echte is silent regarding the quantities of initiators added. *Demirors* teaches use of initiators at 100-1,500 ppm (0.01 to 0.15% by weight; col. 8, lines 37-47). At the time of the invention, it would have been obvious to a person having ordinary skill in the art to prepare the polymers taught by *Echte* via the continuous method of *Demirors*, with the motivation of improving the mechanical properties of the product, in particular product impact resistance (*Demirors*, col. 9, lines 25-29).

Regarding claim 16: *Echte* teaches a process for making a composition having the same components as claim 9.

Echte is silent regarding the quantities of chain transfer agents added. *Demirors* teaches 0.0001-0.5% by weight of chain transfer agents (col. 10, lines 6-17). At the time of the invention, it would have been obvious to a person having ordinary skill in the art to prepare the polymers taught by *Echte* via the continuous method of *Demirors*, with the motivation of improving the mechanical properties of the product, in particular product impact resistance (*Demirors*, col. 9, lines 25-29).

Response to Arguments

A) A typographical change to claim 10 has been noted; no new matter has been added by this change, and the objection to Claim 10 has been removed.

B) Applicant's arguments (See page 8 of "Remarks") filed 02/27/2009 have been fully considered but they are not persuasive. Regarding the rejection of claims 1-3 and 7 under U.S.C. 103(a), the applicant states that *Echte* is silent regarding the method of production, in accordance with a method set forth by the instant invention. However, the product of *Echte* is directed towards the claimed invention (claims 1-3 and 7), and not the process. These product-by-process limitations are not included in claims 1-3 and 7.

The applicant further states that the Hildebrand solubility parameter is not taught by *Echte*. While this is acknowledged, unless it can be otherwise shown, the Hildebrand parameters are properties inherent to the components of the composition. As such, the measurement of this value or the recognition of a previously unrecognized property does not constitute patentability, as the composition of instant claims 1-3 and 7 contains overlapping ranges for the components of *Echte*'s composition.

C) The applicant argues (page 8, bottom of page) that butyl rubber is not polybutadiene. It is noted that polybutadiene is not butyl rubber in view of the definition provided by *Hawley*. *Echte* teaches polybutadiene which is a 1,3 alkadiene as required by claims 3 and 7. In response to applicant's argument that the references fail to show certain features of applicant's invention, it is noted that the features upon which applicant relies (i.e., rubber is claimed, not butyl rubber) are not recited in the rejected

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claim(s). Although the claims are interpreted in light of the specification, limitations from the specification are not read into the claims. See *In re Van Geuns*, 988 F.2d 1181, 26 USPQ2d 1057 (Fed. Cir. 1993).

D) The applicant argues (page 9, top half of page) that *Kasahara* does not disclose the Hildebrand parameter. As stated above, this parameter is inherent to the type of polymers used in the composition. *Kasahara* was cited as an evidentiary reference to show equivalence of the terms salami particles and “cell/coil particles”.

E) The applicant argues (page 9, bottom half of page) that while *Demirors* demonstrates overlapping ranges for weight percentages and properties not cure the deficiency of the missing Hildebrand relationship. As stated above, the Hildebrand relationship is inherent to the polymer composition used.

F) The applicant argues (pages 10-11) that the Hildebrand relationship of claim 1 is not taught in *Echte* or *Demirors*. Thus, unless it can be shown otherwise, the Office assumes that the properties disclosed are inherent to the composition. “The discovery of a previously unappreciated property of a prior art composition, or of a scientific explanation for the prior art’s functioning, does not render the old composition patentably new to the discoverer.” *Atlas Powder Co. v. Ireco Inc.*, 190 F.3d 1342, 1347, 51 USPQ2d 1943, 1947 (Fed. Cir. 1999). See MPEP § 2112.

Conclusion

THIS ACTION IS MADE FINAL. Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

Correspondence

Any inquiry concerning this communication or earlier communications from the examiner should be directed to MICHAEL A. SALVITTI whose telephone number is (571)270-7341. The examiner can normally be reached on Monday-Thursday 8AM-7PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Mark Eashoo can be reached on (571) 272-1197. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Mark Eashoo/
Supervisory Patent Examiner, Art Unit 1796

/M. A. S./
Examiner, Art Unit 1796